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Implementation of the United Nations Economic Commission for Europe Statistical Programme 2017

Note by the secretariat

Addendum

Report of the Expert Forum for producers and users of climate change-related statistics

Summary

The document presents the key outcomes of the Expert Forum for Producers and Users of Climate Change-related Statistics which took place from 3 to 5 October 2017 in Rome. The meeting was organized following a decision of the Conference of European Statisticians in June 2017 and the recommendation of the previous Expert Forum, held from 5 to 7 October 2016.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The UNECE Expert Forum was hosted by the Food and Agriculture Organization of the United Nations (FAO) and attended by representatives of ministries and national statistical offices of Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Brazil, Canada, Chile, Estonia, Finland, Georgia, Germany, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Mexico, Mongolia, Nepal, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Moldova, Russian Federation, Slovakia, Slovenia, South Africa, Sweden, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland and Uzbekistan.

2. The meeting was also attended by representatives of the Association de l'Education Environnementale pour les Futures Générations (AEEFG), Directorate-General for Climate Action (DG-CLIMA), Eurasian Economic Commission, Eurostat, Joint Research Centre of European Commission, European Environment Agency (EEA), FAO, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Intergovernmental Panel on Climate Change (IPCC), International Center for Environmental Research (ICFER), International Energy Agency (IEA), Midsummer Analytics, Politecnico di Milano and Casa Italia, TU Dresden, Scientific-Information Center of the Interstate Coordination Water Commission of the Central Asia, United Nations Framework Convention on Climate Change (UNFCCC), United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), United Nations Economic and Social Commission for Western Asia (ESCWA), United Nations Environment (UN Environment), United Nations Mission in Kosovo (UNMIK), United Nations Office for Disaster Risk Reduction (UNISDR), United Nations Statistics Division (UNSD), Università degli Studi di Bari Aldo Moro, Università di Bologna, World Meteorological Organization (WMO) and UNECE.

II. Organization of the meeting

3. Nina Holmengen (Norway) chaired the meeting.

4. The participants adopted the provisional agenda of the Expert Forum.

5. The following substantive topics were discussed on the basis of presentations and papers:

- Session 1: Setting the scene;
- Session 2: Climate change-relevant data on agriculture, forestry and land use;
- Session 3: Implementing the set of climate change indicators;
- Session 4: Road map and success stories;
- Session 5: Measurement of extreme events and disasters;
- Closing: The way forward.

6. All documents for the meeting are available at: www.unece.org/index.php?id=43954

III. Summary of the discussion and main conclusions reached at the meeting

A. Setting the scene

Opening addresses and presentations: Pietro Gennari (FAO, Chief Statistician), Nina Holmengen (Norway) and Livia Hollins (UNFCCC).

Keynote speech: Gavin Schmidt (NASA Goddard Institute for Space Studies, Director)

7. The first session was organized by chair of the Expert Forum and chair of the Steering Group on Climate Change-related Statistics, Nina Holmengen (Norway). The session set the scene for developing climate data to respond to user needs, informed the participants of progress since the previous Expert Forum and introduced the topics of the meeting.

8. In the welcome speech, Pietro Gennari, FAO, highlighted the need for increased support to countries on the ongoing reporting processes on the Sustainable Development Goals (SDGs) and under UNFCCC, recognizing a key role of national statistical offices in identifying efficiencies in data production and analysis across both processes, avoiding duplication, while ensuring data transparency, coherency and comparability across countries.

9. In the keynote speech, Gavin Schmidt, NASA Goddard Institute for Space Studies, provided an overview of the climate change problem, sharing insights on how to most effectively produce and communicate data in support of critical policy making and decision processes. Mr Schmidt introduced one of such new data products at the Expert Forum, disseminated jointly with FAO via the new FAOSTAT Temperature Change domain[1].

10. Livia Hollins, UNFCCC, informed the Expert Forum that the Parties to the Paris Agreement are on track to agree on the modalities, procedures and guidelines for the implementation of the Paris Agreement by COP 24 in 2018. This will have implications for the statistical community. The UNFCCC Secretariat will keep the Expert Forum informed of relevant developments.

11. The chair informed participants of the following results of work since the previous Expert Forum:

- In June 2017, the Conference of European Statisticians endorsed the initial set of key climate change-related indicators[2] developed by the dedicated UNECE Task Force, chaired by Italy. Further work to refine the set and develop data sources and methodologies will be discussed at the Expert Forum;
- The UNECE Steering Group updated the example *Road maps to develop official statistics for climate change analysis*[3] based on feedback from the 2016 Expert Forum, and circulated the example to countries to support development of similar national road maps. Countries will share first experience gained when developing a road map at the Expert Forum;

[1] www.fao.org/faostat/en/#data/ET/visualize

[2] www.unece.org/statistics/statistics/task-force/on-a-set-of-key-climate-change-related-statistics-using-seea.html

[3] www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2017/Road_maps_for_climate_change_statistics.pdf

- The Steering Group finalized a *Report*[4] *on countries' progress and challenges in developing climate change-related statistics*. The Steering Group analysed the report when planning the contents of the Expert Forum and other activities;
- The report led to the development of a survey on priorities of international work in climate change-related statistics. To address the highest priorities, the Steering Group drafted a note on *What national statistical offices need to know about inventories?* It will be finalized based on feedback from the Expert Forum;
- UNECE work on climate change-related statistics received broad support at the 48th session[5] of the United Nations Statistical Commission (UNSC) in March 2017. UNECE presented the *CES Recommendations*, set of indicators and the road map at a side event of the Statistical Commission, and the Commission session took note of the global applicability and usefulness of the outcomes produced so far;
- At the request of the Expert Forum, the Steering Group set up a wiki platform[6] with good practices in climate change-related statistics. It contains good examples presented at the Expert Fora so far and other examples on how to implement the *Recommendations on Climate Change-related Statistics*[7].
- The UNECE Task Force on Measuring Extreme Events and Disasters is working in close alignment with climate and disaster risk experts to promote harmonized measurement approaches, concepts and definitions for assessing progress towards the 2030 Sendai Framework for Disaster Risk Reduction.

12. The UNECE Steering Group should follow up on the progress of the negotiations under the UNFCCC relating on the requirements for climate-related data from the Paris Agreement, and keep the network of the Expert Forum participants informed. The Steering Group will work together with UNFCCC to build on the results of the current UNFCCC call for submissions on adaptation and resilience statistics, and advance the development of these statistics. Depending on the outcomes of the Conference of Parties (COP23) in Bonn, the Expert Forum may need to dedicate a full session to the data requirements of the Paris Agreement in 2018.

B. Climate change-relevant data on agriculture, forestry and land use

Presentations: Andrej Kranjc (IPCC), Freier, Martin (Germany), Sushil Kumar Sharma (Nepal) and Francesco N. Tubiello, Mirella Salavatore, Selvaraju Ramasami, Julian Fox, Felix Teillard and Danilo Mollicone (FAO).

[4] www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2017/Countries_progress_in_climate_change-related_statistics.pdf

[5] https://unstats.un.org/unsd/statcom/48th-session/documents/Report-on-the-48th-session-of-the-statistical-commission-E.pdf

[6] https://statswiki.unece.org/display/GPCCS

[7] www.unece.org/stats/publications/ces_climatechange.html

13. Francesco N. Tubiello (FAO) organized and chaired the session focusing on countries' needs and international activities with respect to climate-change relevant data on agriculture, forestry and other land use. These data are critical for evidence-based decision making in national planning and international reporting, in the context of the Paris Agreement and SDGs.

14. The following points were raised during the session:

- Current good practices were shared at the session, for instance on producing data on agriculture, land-use and forestry for the greenhouse gas emission inventories, and on data on impacts and adaptation to climate change in agriculture and forestry;
- Food security, food production, forests and land use are relevant to several SDG targets and indicators and feature prominently in the national emission inventories and Nationally Determined Contributions (NDCs), submitted by countries under the UNFCCC. Work will be needed to further integrate and facilitate the use of these statistics across multiple reporting processes, including by clarifying the underlying definitions of critical indicators, for instance of the indicator on the area under sustainable agricultural practices. This will reduce duplication and enable comparability across countries;
- The emission inventories are well established, but many countries would benefit from further refinement of inventories in agriculture, forestry and land use, especially as a basis for making projections. Many countries derive data mainly from agricultural surveys not designed to serve inventory compilation. The existing surveys do not always fulfil the inventory data needs, and additional data sources may need to be found;
- Typically, the uncertainties of emission estimates from the agricultural and land use sectors are higher than in other sectors. Countries are also using very different emission factors (if not using the Tier 1 approach), so there would be room for methodological development to increase harmonization. The ongoing process of refinement of the IPCC methodological guidelines may provide an opportunity to flag the need for further standardisation of methods in this area;
- One of the largest data gaps in this area relate to the agricultural-economic losses from climate change. A system to monitor these losses would be needed to provide the basis for calculating compensations for farmers;
- There is a high demand for new data on adaptation and resilience, especially for the agriculture, forestry and land use sectors, which are among those most exposed to climate and its variability, and upon which rural livelihoods, income and employment so critically depend. Not all such indicators can be compiled from existing data, and will require additional surveying. One significant data gap in this area relates to the agricultural-economic losses from climate change. A system to monitor these losses would be needed to provide the basis against which to estimate climate damage and, thus, measure effectiveness of adaptation action;
- Participants welcomed the information on the many substantive and forward-looking FAO data tools and activities to support the development of statistical capacity to measure climate change and agriculture.

15. The session confirmed the particular relevance of data on agriculture, land use and forestry as part of climate change-related statistics and the critical role of FAO in supporting their development in member countries. Participants asked the UNECE Steering Group to provide a link between statisticians working on these data and topic specialists, including on environment and economy, and continue to develop these statistics for climate

analysis. Countries were encouraged to bring up good examples of developing data on agriculture, land use and forestry for climate analysis and to share these through the UNECE wiki of good practices.

C. Implementing the set of climate change-related indicators

Presentations: Angelica Tudini (Italy), Olivier Thunus (Luxembourg), Reena Shah (UNSD), Wafa Aboul Hosn (ESCWA), Sergio Castellari (EEA) and Viveka Palm (Sweden).

16. Angelica Tudini (Italy) organized and chaired the session. The session concerned the initial set of key climate change-related indicators identified by the *Task Force on a set of key Climate Change-related Statistics using the System of Environmental-Economic Accounts (SEEA)* and endorsed by the CES plenary session in June 2017. The session discussed how to implement the set of climate indicators nationally and regionally, and use it as a basis for global work. Several national statistical offices and international organizations shared their experience from pilot testing or analysing the indicator set.

17. The following points were raised during the session:

- Results of the 2017 pilot data collection of the initial indicator set allow defining the next steps for the Task Force. Currently, the Task Force has received the results of pilot testing from 11 organizations. It will analyse the outcomes further when all results of pilot testing will be available;
- Participants provided additional feedback on the methodological aspects of the initial set of indicators. The interventions highlighted the need for clear definitions, methodological references and guidance. Consistently with the final report and metadata sheets developed by the Task Force, participants stressed the need to apply dual measurement in the short term for all indicators that can be derived from either SEEA or other data sources. This is typically the case with energy and emission-related indicators. However, the SEEA consistent data will be a priority to ensure comparability with economic data principles, definitions and classifications;
- The UNECE Secretariat reminded all participants that the compilation of the set of climate change-related indicators will not be mandatory, and the Secretariat does not foresee international data collection on the indicator set or international publication of that data. Instead, the set is a recommendation intended to promote the availability of core indicators in an internationally comparable form. Participants suggested developing training materials and workshops to support progress in the area;
- Based on the experience from the pilot testing, countries stressed the need for coordination at different levels.

    (a) The Task Force should coordinate its work on the indicator set with the relevant international initiatives, such as with the SDGs and the Sendai Framework on Disaster Risk Reduction. The set of indicators applies existing methodologies of other internationally agreed indicators, such as SDGs. While ensuring coherence is important, problems arise where methodologies are still under development, i.e. with Tier III indicators.

    (b) The Task Force needs to reach out to the relevant international bodies and groups to find synergies, including to the IPCC Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA).

(c) Nationally, the statistical offices should coordinate among the various actors involved in the calculation and dissemination of the set of indicators.

- The set of indicators will be tested and extended globally and to take into account the specific challenges of different regions. ESCWA tested 21 indicators (mostly from the UNECE set) in the Arab countries; ESCAP is working on a set of headline indicators for small island countries; and ECLAC will conduct a pilot implementation in its region;
- UNSD will launch the development of a global set of climate change-related indicators based on the initial set of indicators, developed by the UNECE Task Force. UNSD, in consultation with UNECE and UNFCCC, will report to the UN Statistical Commission about this work in March 2018. The work at the global level may also raise a need to revise the initial set of indicators to take into account specific country needs;
- The main methodological weaknesses of the indicator set relate to the adaptation and mitigation indicators. Countries asked for methodological development of these indicators and support to their capacity development in the compilation of the indicator set;
- The Task Force will follow up the work on the set of indicators in other regions and globally as these may bring up needs to adjust the initial set of indicators, both in the number and the individual indicators selected, and due to different policy priorities and regional diversities.

18. Participants appreciated the sharing of experience on the pilot testing of the set of indicators and asked the UNECE Task Force to continue its work to refine the indicator set and develop data source and methods taking into account feedback from the pilot testing and the Expert Forum. Participants asked UNECE to support the implementation of the set of indicators in countries and other regions. The next Expert Forum should discuss initial methodological guidance and refinements to the indicator set.

D. Road map and success stories in the progress towards better climate change-related statistics

Presentations: Johanna Laiho-Kauranne (Finland), Marko Pavlic (Slovenia), Kanykey Orozbaeva (Kyrgyzstan), Yurik Poghosyan (Armenia) and Ricardo Fernandez (EEA).

19. Rob Smith (Vice Chair of the UNECE Steering Group) organized and chaired the session to discuss countries' progress in developing climate change-related statistics through road maps and other success stories. Road maps support countries in identifying national priorities and practical steps for improving climate change-related statistics in line with the *Recommendations on Climate Change-related Statistics*. Success stories in the development of climate change-related statistics enable mutual learning.

20. The following points were raised during the session:

- Moving from research to regular statistical production requires commitment from policy makers and the government. In some countries, climate change-related statistics are not yet part of the regular statistical production and a clear mandate is lacking. Preparing a road map for the development of climate change-related statistics with the relevant partners has been helpful for achieving an engagement for the development of these statistics;
- Cooperation between all departments relevant to climate change (national statistical office, environment ministry, energy ministry, etc.) is necessary to ensure successful

development of roadmaps for climate change-related statistics. As far as possible, cooperation should be based on formalized agreements between departments and these formalized agreements should be reviewed regularly to ensure they remain relevant;

- The national statistical office cannot be seen as the only provider of data in a roadmap for climate change statistics. The roles of other agencies (such environment ministries) must be recognized.
- The amount of time and effort required to elaborate a roadmap for climate change-related statistics should not be underestimated. The main difficulty is selecting priorities, in which a jointly prepared road map can help.
- Development of roadmaps should be undertaken at the highest level possible to ensure buy-in of stakeholders and the commitment of adequate financial and human resources to permit successful implementation of the roadmap.
- Climate change-related statistics need to be developed in a way that supports multiple uses of the data. Development work should also take into account existing data and reporting systems, such as the Land Parcel Identification System.
- The national statistical offices should be formal partners in national emission inventory systems and the changes to monitoring, reporting and verification under the Paris agreement and IPCC guidelines offer good opportunities for countries to consider greater involvement of national statistical offices in inventory compilation and review processes. In some countries, the legal setting has been strengthened to enable the provision of confidential data from the statistical office to the inventory compilation.
- Participants asked to include in the paper on *What national statistical offices need to know about inventory methodologies* a discussion about the differences between official statistics and inventory compilation in terms of publication strategies, reporting obligations and quality reviews and criteria.
- Sector-specific workshops between greenhouse gas inventory compilers and statistical offices should be considered as an example of 'best practice' that leads to greater collaboration and data quality improvements, improving overall emission estimates. Such workshops could start from the energy sector.

21. Participants encouraged the development of national road maps or action plans to focus the work to improve climate change-related statistics. Countries agreed on the importance of identifying concrete priorities that are achievable in the short-term. The Steering Group encouraged participants to select at least one priority development action for the next year, and report to the Expert Forum in 2018 to share the results. Participants considered the presentations on national road maps inspiring for their national work. They considered the note on *What national statistical offices need to know about emission inventories* as a very useful tool that should be widely distributed among statisticians. The Steering Group will finalize the note taking into account the feedback received and will continue to support countries' efforts in the development of climate change-related statistics and road maps for that purpose.

E. Measurement of disasters and extreme events

Presentations: Angela Ferruzza and Giovanna Tagliacozzo (Italy), Michael Nagy (UNECE), Rikke Munk-Hansen (ESCAP), Marc Gordon (UNISDR), Galimira Markova

and Piero Conforti (FAO), Jesarela Lopez (Mexico), Yurik Poghosyan (Armenia) and Hakan Yazicioglu (Turkey).

22. Angela Ferruzza (Italy) and Piero Conforti (FAO) co-organized and co-chaired the session. It discussed the findings of the UNECE Task Force on Measuring Extreme Events and Disasters, considered the roles of different organizations in providing these data and the kind of improvement and capacity building needed to support statistical offices in data provision. The session reflected on the collaboration needed to measure progress towards the 2030 Sendai Framework, and shared national case studies in compiling these data. FAO highlighted its work on measuring the impacts of extreme events and disasters on crops, livestock, forestry and fisheries, in support of the Sendai monitoring framework.

23. The following points were raised during the session:

- Participants had a common understanding that statistics on extreme events and disasters are relevant in all phases of disaster-risk management, even though there are several challenges in providing the needed information in the required quality, detail and for the area of interest.
- National statistical offices that are at an early stage of developing or producing statistics on extreme events and disasters can benefit from an exchange with countries with more experience.
- The country examples showed that, depending on the national circumstances, national statistical offices could take up additional roles in support of national disaster-risk management. This could be, for example coordinating the national Geospatial Information System, having a formalized role in an emergency situation protocol or hosting a national disaster database.
- Compiling statistics on extreme events and disasters requires close cooperation and coordination among different governmental bodies, non-governmental organizations and research. In addition, local authorities play an important role in informing disaster risk management and should be considered part of the institutional environment.
- Participants stressed the importance of data sharing agreements and the usefulness of open data policies in emergency preparedness and early response to immediate information needs.
- Regular production of statistics on extreme events and disasters needs to be based on the national statistical law and the statistical work programme. Many countries need to consider updates to their legal framework in this regard.
- Countries are looking forward to the outcomes of the work on the Sendai Process, the Asia-Pacific Expert Group on Disaster-related Statistics and the UNECE Task Force on Measuring Extreme Events and Disasters. The outcomes will support the harmonization of definitions and classifications, and the production of these statistics through practical guidance.
- An important role of national statistical offices is to contribute to valuing disaster losses in physical and monetary terms. Statistical offices' data could also help to measure the impact on wellbeing.

24. Participants asked the UNECE Task Force on Measuring Extreme Events and Disasters to continue the close collaboration with UNISDR and the Sendai Process. The Task Force will present its draft recommendations for feedback at the next Expert Forum. Participants asked UNECE, FAO and UNESCAP to support their member countries in

measuring extreme events and disasters and developing the availability and usefulness of official statistics for this purpose.

F. The way forward

25. The session was organized by the chair of the Expert Forum, Nina Holmengen (Norway). The session discussed the conclusions of the meeting highlighting areas for further work and next steps in implementing the *Recommendations on Climate Change-related Statistics*.

26. UNECE will prepare the next Expert Forum in consultation with the Steering Group on Climate Change-related Statistics. The following three topics were voted as possible new topics to be considered at the next Expert Forum:

- Statistics for climate adaptation (45 per cent of participants supported this topic).
- Use of geospatial data and earth observations with climate statistics (35 per cent).
- Quality of climate change-related statistics (32 per cent).

27. The UNECE Steering Group will select one of the above topics for discussion. In addition, the Expert Forum may discuss countries' progress in developing climate change-related statistics and the preparation of national road maps, updates on the reporting requirements agreed in Bonn after the Paris Agreement, methodological development of the set of climate change-related indicators and draft recommendations on the role of national statistical offices in measuring extreme events and disasters.

28. As a conclusion, the UNECE Steering Group and Task Forces will carry out the following activities as requested by participants of the Expert Forum in the previous sessions:

- Follow up on the progress of the negotiations on the UNFCCC reporting requirements after the meetings of the Conference of Parties (COP), and keep the network informed.
- Explore opportunities for engagement with UNFCCC and IPCC processes, in particular in the area of measuring adaptation, mitigation and resilience;
- Continue close collaboration with FAO to develop data and statistics on climate change in agriculture, land-use and forestry through the UNECE Steering Group of which FAO is a member;
- Develop capacity building activities on climate change-related statistics in cooperation with all relevant international organizations and Regional Commissions;
- Develop training for national statistical offices and compilers of emission inventories, with partners, e.g. workshop with IEA and finalize the paper on *What national statistical offices need to know about inventories*;
- Continue to promote the use of the *CES Recommendations* and:
    a. Support countries wishing to develop national road maps;
    b. Develop and maintain the new wiki repository of good practices.
- Develop methodologies for the implementation of the set of climate change-related indicators and refine the set of indicators through the UNECE Task Force, and in coordination with other organizations;

- Develop the role of statistical offices in measuring extreme events and disasters through the UNECE Task Force, and in coordination with other organizations.

29. The Expert Forum encouraged all participants, each in their current capacity, to:

- Engage with stakeholders to discuss important data needs of international and national policies and climate reporting by:
    a. Establish a contact with disaster risk experts in the country to identify key data needs for official statistics;
    b. Engage with the national UNFCCC focal point and IPCC focal point to discuss how national statistical offices and other data producers can best contribute to their work;
    c. Rely on the narrative[a], prepared by the UNECE Steering Group, to demonstrate the value of official statistics for climate change analysis.
- Review the set of climate change-related indicators nationally with the relevant data producers. Share your experience with the UNECE Task Force to provide input.
- Prepare a national road map or an action plan for the development of climate change-related statistics. Start by assessing the current situation and selecting at least one priority action for 2017-2018. Share your experience at future Expert Fora.

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[a] www.unccc.org/files/admin/DAM/stats/documents/sustainable_development/Growing_need_for_official_statistics_in_measuring_climate_change.pdf